Homework 1/2/2014

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

Find the slope of the line that passes through the pair of points.

____ 1. (5, 7), (6, –2)
a. 9 b. $\frac{1}{9}$ c. –9 d. $-\frac{1}{9}$

Simplify the expression.

____ 2. $(7n^9)^3$
a. $343n^{12}$ b. $343n^{27}$ c. $7n^{729}$ d. $7n^{27}$

____ 3. $(p^2)^8$
a. p^{16} b. p^{10} c. p^{256} d. $2p^{16}$

____ 4. $\frac{7^4}{7^3}$
a. $\frac{1}{7^7}$ b. 7^{12} c. 7^7 d. 7

____ 5. $\frac{t^{18}}{t^9}$
a. t^{162} b. t^9 c. $\frac{1}{t^9}$ d. t^{27}

Solve the inequality.

____ 6. $-5x - 7 < 28$
a. $x < -7$ b. $x > \frac{21}{5}$ c. $x > -7$ d. $x < -\frac{21}{5}$

____ 7. Find the domain and range of the relation.

Age of Person	**Books Read**
64	48
37	43
30	20
30	29

a. domain: {30, 30, 37}
range: {29, 20, 48}

c. domain: {30, 37, 64}
range: {29, 20, 48}

b. domain: {30, 37, 64}
range: {29, 20, 43, 48}

d. domain: {30, 30, 37}
range: {29, 20, 43, 48}

____ 8. The table shows the amount of time a student spends practicing each week and her typing speed.

Practice (hours)	1	2	3	4	5
Typing Speed (words per minute)	21	26	35	37	40

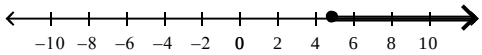
a. Use a graphing calculator to find the equation of the line of best fit.
b. Use your equation to predict the student's typing speed if she spends 8 hours practicing each week.

a. $y = 5.1x + 17$; about 47 words per minute
b. $y = 4.9x + 17.1$; about 56 words per minute
c. $y = 17.1x + 4.9$; about 142 words per minute
d. $y = 4.6x + 16$; about 53 words per minute

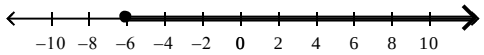
Solve the inequality. Then graph your solution.

____ 9. $-\frac{x}{6} \le -1$

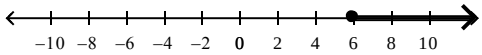
a. $x \le 5$



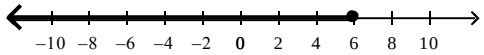
c. $x \ge -6$



b. $x \ge 6$



d. $x \le 6$



Tell whether the lines for each pair of equations are *parallel*, *perpendicular*, or *neither*.

____ 10. $7x - 4y = 4$
$x - 4y = 3$

a. neither
b. perpendicular
c. parallel

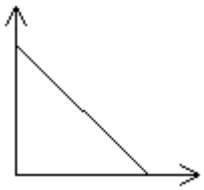
Which number is a solution of the inequality?

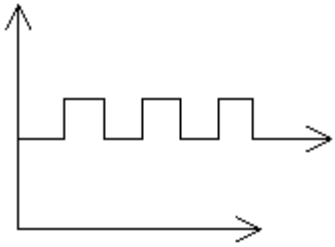
____ 11. $3x - 12 \ge 14$

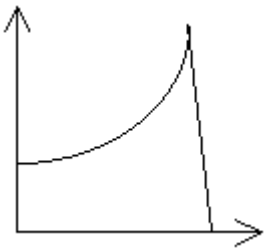
a. 26
b. 1
c. 3
d. 10

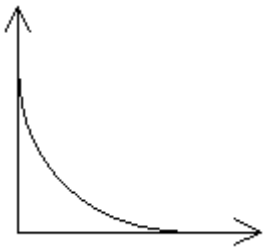
3
4
9

____ 12. Which graph is the most appropriate to describe a quantity decreasing at a steady rate?

a. 

c. 

b. 

d. 

Solve the equation.

____ 13. $45 - 4 + 7w = 62$

a. 6 b. 2 c. –3 d. 3

____ 14. $3(y + 3) = 18$

a. 3 b. 9 c. 5 d. –9

____ 15. $v - \frac{4}{5} = \frac{2}{3}$

a. $1\frac{1}{9}$ b. $\frac{10}{13}$ c. $\frac{2}{15}$ d. $1\frac{7}{15}$

____ 16. $\frac{5}{8}x - 8 = -2$

a. $11\frac{1}{5}$ b. $3\frac{3}{4}$ c. $-9\frac{3}{5}$ d. $9\frac{3}{5}$

____ 17. $9d - 3d + 6d - 5 = 4d$

a. $\frac{5}{8}$ b. $\frac{5}{16}$ c. $\frac{5}{4}$ d. –2

Use a graphing calculator to find the equation of the line of best fit for the data. Find the value of the correlation coefficient *r*.

____ 18.

Average Speed (mi/h)	Time (hours)
8.5	2.5
7.5	3.75
6.5	4.5

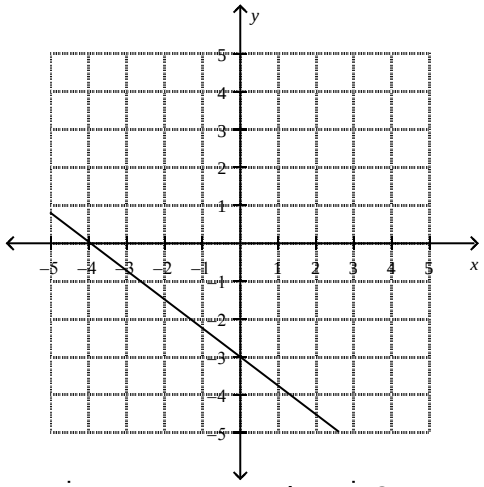
6.0	5.0
5.5	5.5
5.0	6.25
4.0	6.75
3.5	8.75

a. $y = 11.83x - 1.11$; $r = -0.9760964904$
b. $y = 11.83x - 1.11$; $r = 0.9527643586$
c. $y = -1.11x + 11.83$; $r = 0.9527643586$
d. $y = -1.11x + 11.83$; $r = -0.9760964904$

____ 19. Evaluate $f(x) = -3x - 7$ for $x = -1$.
a. –4 b. –10 c. 4 d. 3

Find the slope of the line.

____ 20.



a. $-\frac{4}{3}$ b. $-\frac{3}{4}$ c. $\frac{4}{3}$ d. $\frac{3}{4}$

Homework 1/2/2014
Answer Section

MULTIPLE CHOICE

1. ANS: C DIF: L1 REF: 6-1 Rate of Change and Slope
   OBJ: 6-1.2 Finding Slope STO: NC 4.01 TOP: 6-1 Example 4
   KEY: finding slope using points,slope
   MSC: NAEP M1l, NAEP A2a, NAEP A2b, CAT5.LV19.46, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.10, TV.LV19.11, TV.LV19.14, TV.LV19.15, TV.LVALG.53
2. ANS: B DIF: L1
   REF: 8-4 More Multiplication Properties of Exponents
   OBJ: 8-4.2 Raising a Product to a Power STO: NC 1.01, NC 1.01a
   TOP: 8-4 Example 3
   KEY: raising a product to a power,exponential expression,simplifying an exponential expression
   MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53
3. ANS: A DIF: L1
   REF: 8-4 More Multiplication Properties of Exponents
   OBJ: 8-4.1 Raising a Power to a Power STO: NC 1.01, NC 1.01a
   TOP: 8-4 Example 1
   KEY: raising a power to a power,exponential expression,simplifying an exponential expression
   MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53
4. ANS: D DIF: L1 REF: 8-5 Division Properties of Exponents
   OBJ: 8-5.1 Dividing Powers With the Same Base STO: NC 1.01, NC 1.01a
   TOP: 8-5 Example 1
   KEY: dividing powers with the same base,exponential expression
   MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53
5. ANS: B DIF: L1 REF: 8-5 Division Properties of Exponents
   OBJ: 8-5.1 Dividing Powers With the Same Base STO: NC 1.01, NC 1.01a
   TOP: 8-5 Example 1
   KEY: dividing powers with the same base,exponential expression
   MSC: CAT5.LV19.50, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.CP, IT.LV15.DP, S9.TSK1.NS, S10.TSK1.NS, TV.LV19.10, TV.LV19.11, TV.LV19.52, TV.LVALG.53
6. ANS: C DIF: L1 REF: 3-4 Solving Multi-Step Inequalities
   OBJ: 3-4.1 Solving Inequalities With Variables on One Side
   STO: NC 4.01, NC 4.01a TOP: 3-4 Example 1
   KEY: modeling with inequalities,multi-step inequality with variables on one side,solving inequalities
   MSC: NAEP A3b, NAEP A3c, NAEP A4a, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.17, TV.LV19.52,

TV.LVALG.54

7. ANS: B DIF: L1 REF: 5-2 Relations and Functions
OBJ: 5-2.1 Identifying Relations and Functions STO: NC 4.01, NC 4.01a
TOP: 5-2 Example 1 KEY: domain,range
MSC: NAEP A1g, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, IT.LV15.PS, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LVALG.56

8. ANS: B DIF: L3 REF: 6-6 Scatter Plots and Equations of Lines
OBJ: 6-6.2 Writing an Equation for a Line of Best Fit STO: NC 3.03, NC 3.03b
TOP: 6-6 Example 2
KEY: line of best fit,problem solving,word problem,multi-part question,data analysis
MSC: NAEP D2e, NAEP D2g, NAEP A2c, NAEP A2f, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.NS, S9.TSK1.DSP, S10.TSK1.NS, S10.TSK1.DSP, TV.LV19.11, TV.LV19.15, TV.LV19.16, TV.LV19.18, TV.LVALG.56

9. ANS: B DIF: L1
REF: 3-3 Solving Inequalities Using Multiplication and Division
OBJ: 3-3.1 Using Multiplication to Solve Inequalities STO: NC 4.01, NC 4.01a
TOP: 3-3 Example 2
KEY: Multiplication Property of Inequality for c < 0,solving inequalities
MSC: NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.10, TV.LV19.16, TV.LV19.52, TV.LVALG.54

10. ANS: A DIF: L2 REF: 6-5 Parallel and Perpendicular Lines
OBJ: 6-5.2 Perpendicular Lines STO: NC 2.02 TOP: 6-5 Example 3
KEY: perpendicular lines,parallel lines
MSC: NAEP G3g, NAEP A2e, CAT5.LV19.52, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LV19.18, TV.LVALG.54, TV.LVALG.56

11. ANS: A DIF: L2 REF: 3-1 Inequalities and Their Graphs
OBJ: 3-1.1 Identifying Solutions of Inequalities STO: NC 4.01, NC 4.01a
TOP: 3-1 Example 2 KEY: solution of the inequality,inequality
MSC: NAEP A3a, CAT5.LV19.51, CAT5.LV19.51, CAT5.LV19.52, IT.LV15.DI, TV.LV19.10, TV.LV19.11, TV.LVALG.54

12. ANS: A DIF: L1 REF: 5-1 Relating Graphs to Events
OBJ: 5-1.1 Interpreting¸ Sketching¸ and Analyzing Graphs
TOP: 5-1 Example 3 KEY: graphing,analyze a graph
MSC: NAEP A2a, NAEP A2c, CAT5.LV19.54, IT.LV15.DI, TV.LV19.14, TV.LV19.15, TV.LV19.17, TV.LVALG.56

13. ANS: D DIF: L1 REF: 2-3 Solving Multi-Step Equations
OBJ: 2-3.1 Using the Distributive Property to Combine Like Terms
STO: NC 1.02 TOP: 2-3 Example 1
KEY: Addition and Subtraction Properties of Equality, Multiplication and Division Properties of Equality, solving equations, multi-step equation
MSC: NAEP A3b, NAEP A3c, NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S9.TSK1.GM, S10.TSK1.PRA, S10.TSK1.GM, TV.LV19.16, TV.LV19.17, TV.LV19.47, TV.LV19.48, TV.LV19.52, TV.LVALG.54

14. ANS: A DIF: L1 REF: 2-3 Solving Multi-Step Equations
OBJ: 2-3.2 Using the Distributive Property to Solve Equations

STO: NC 1.02 TOP: 2-3 Example 4
KEY: Addition and Subtraction Properties of Equality, Multiplication and Division Properties of Equality, solving equations, multi-step equation, Distributive Property
MSC: NAEP A3b, NAEP A3c, NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S9.TSK1.GM, S10.TSK1.PRA, S10.TSK1.GM, TV.LV19.16, TV.LV19.17, TV.LV19.47, TV.LV19.48, TV.LV19.52, TV.LVALG.54

15. ANS: D DIF: L1 REF: 2-1 Solving One-Step Equations
OBJ: 2-1.1 Solving Equations Using Addition and Subtraction
STO: NC 1.02 TOP: 2-1 Example 1
KEY: Addition and Subtraction Properties of Equality, equivalent equations, inverse operations, one-step equation, solving equations, fractions
MSC: NAEP N5e, NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.49, TV.LV19.52, TV.LVALG.54

16. ANS: D DIF: L1 REF: 2-2 Solving Two-Step Equations
OBJ: 2-2.1 Solving Two-Step Equations STO: NC 1.02
TOP: 2-2 Example 1
KEY: Addition and Subtraction Properties of Equality, Multiplication and Division Properties of Equality, solving equations, two-step equation, fractions
MSC: NAEP N5e, NAEP A2e, NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.17, TV.LV19.18, TV.LV19.52, TV.LVALG.54

17. ANS: A DIF: L1
REF: 2-4 Equations With Variables on Both Sides
OBJ: 2-4.1 Solving Equations With Variables on Both Sides
STO: NC 1.02 TOP: 2-4 Example 1
KEY: Addition and Subtraction Properties of Equality, Multiplication and Division Properties of Equality, solving equations, multi-step equation, equations with variables on both sides
MSC: NAEP A2e, NAEP A4a, NAEP A4c, CAT5.LV19.50, IT.LV15.CP, IT.LV15.PS, IT.LV15.AM, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.16, TV.LV19.17, TV.LV19.52, TV.LVALG.54

18. ANS: D DIF: L1 REF: 6-6 Scatter Plots and Equations of Lines
OBJ: 6-6.2 Writing an Equation for a Line of Best Fit STO: NC 3.03, NC 3.03b
TOP: 6-6 Example 2
KEY: scatter plot,graphing,data analysis,line of best fit,correlation coefficient
MSC: NAEP D2e, NAEP D2g, NAEP A2c, NAEP A2f, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.NS, S9.TSK1.DSP, S10.TSK1.NS, S10.TSK1.DSP, TV.LV19.11, TV.LV19.15, TV.LV19.16, TV.LV19.18, TV.LVALG.56

19. ANS: A DIF: L1 REF: 5-2 Relations and Functions
OBJ: 5-2.2 Evaluating Functions STO: NC 4.01, NC 4.01a
TOP: 5-2 Example 4 KEY: function
MSC: NAEP A1g, CAT5.LV19.53, CAT5.LV19.54, IT.LV15.DI, IT.LV15.PS, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.14, TV.LV19.16, TV.LVALG.56

20. ANS: B DIF: L1 REF: 6-1 Rate of Change and Slope
OBJ: 6-1.2 Finding Slope STO: NC 4.01 TOP: 6-1 Example 3

KEY: graphing,finding slope using a graph,slope
MSC: NAEP M1l, NAEP A2a, NAEP A2b, CAT5.LV19.46, CAT5.LV19.54, IT.LV15.CP, IT.LV15.DI, S9.TSK1.PRA, S10.TSK1.PRA, TV.LV19.10, TV.LV19.11, TV.LV19.14, TV.LV19.15, TV.LVALG.53